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REMARKS

Introduction

Applicants acknowledge and appreciate the Examiner's recognition that the subject matter of claims 29, 34, 40, and 68 is allowable. However, given the significance of Applicants' invention, the non-final nature of the Office Action, and the patentability of the invention as amended herein (as demonstrated below), there is no need to re-write these four claims in independent form.

Upon entry of the above amendments, claims 1-5, 13-18, 23, 24, 26-40, 42, 44, 45, 52-57, 62, 63, and 65-68 will be pending. Applicants note specifically that claim 30 is pending. Applicants also request the inclusion of claim 55 among the claims currently under consideration because it has never been canceled. Applicants acknowledge that claim 55 was not previously designated as being read upon by the elected species now being examined; however, this omission was inadvertent. Moreover, claim 55 is analogous to claim 16, except that claim 55 depends from claim 36, whereas claim 16 depends from claim 1. Applicants not further that the amendment above cancels no claim that has not been previously canceled, and no new claims have been added.

Claims 1, 24, 26, 31, 36, 63, and 65 have been amended to claim commercially significant embodiments of the invention with greater particularity. In general, claims 1 and 36 have been amended to clarify that the method now claimed involves providing or administering a pharmaceutically acceptable formulation that consists essentially of a at least one photosensitive agent species, with at least one of the species being a photooxidizing agent. Thus, if the formulation includes only one photosensitive species, that species is a photooxidizing agent. On the other hand, if the formulation includes two or more different photosensitive species, at least one, and perhaps some or all of the additional photosensitive species, are photooxidizing agents. Of course, the claimed method does not preclude the contemporaneous, prior, or later administration or other delivery of other compositions, as well. Support for pharmaceutically acceptable formulations as claimed above exists at specification page 13, lines 1-26, whereas support for compositions that contain two or more different species of a photosensitive agent can

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be found in the specification at page 14, line 25, through page 15, line 8. Other conforming amendments have also been made in each of these claims.

Claim 24 has been amended to clarify that the each end of the specified temperature range is modified by the relative term "about". Other amendments clarify that the recited temperatures are measured in degrees Celsius. Similar amendments have been made to claim 63. Claims 26 and 65 have been amended to redefine a preferred subset of photooxidizing agents. Claim 31 has been amended to depend directly from claim 1.

The amendments introduced herein add no new matter and are fully supported by the specification and claims as originally filed. They have been made for the sole purpose of facilitating prosecution, not for reasons relating to patentability. That said, Applicants reserve the right to pursue subject matter no longer or not yet claimed herein in this or a related application.

Applicants respectfully request reconsideration of the invention as now claimed in light of the following remarks.

35 U.S.C. § 102 Rejection

Claims 1-5, 13, 14, 17, 18, 23, 24, 26, 32, 33, 36-39, 42, 44-45, 52, 53, 56, 57, 62, 63, and 65 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Walker, et al. (U.S. Pat. No. 6,041,252). Applicants respectfully traverse because to anticipate, the cited reference must teach, expressly or inherently, each and every element of the claimed invention. As explained below, the '252 patent fails this test as relates to the claimed invention.

Put simply, the '252 patent fails to anticipate any of the pending claims because it only concerns the delivery of cytotoxic agents to target cells via the use of liposomes. Specifically, the '252 patent discloses that liposomes are used to provide localized delivery of therapeutic agents. See '252 patent, col. 2, lines 40-42. After liposomes containing the therapeutic agent are administered, an electric field is generated in a predetermined area so as to permeabilize the liposomes and release the therapeutic agent in the targeted area (see '252 patent, abstract), and further to assist entry of the drug into target cells while minimizing delivery of the drug to

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normal, healthy cells (see '252 patent, col. 3, lines 16-21). In marked contrast, Applicants' invention does not rely on liposomes to provide localized delivery of medicines.

Moreover, the '252 patent only discusses conventional photodynamic techniques in the context of treating tumors using a photosensitizer such as hematoporphrin, which is reportedly delivered by preoperative infusion (see '252 patent, col. 38, lines 26-32). The therapy is said to rely on the selective uptake of hematoporphrin derivatives by the tumor cells. Id., lines 29-31. During surgery, the tumor is then exposed to argon laser-generated light having a wavelength of 630 nm. Id., lines 31-34. Nowhere does the '252 patent relate such photodynamic therapy the use of pharmaceutical formulations that lack liposome encapsulation of the active compound. As such, the '252 patent can not anticipate methods that rely on the delivery or adminstration of pharmaceutical formulations that consist essentially of one or more photosensitive species, at least one of which species is a photooxidizing agent.

35 U.S.C. § 103 Rejections

Claims 27-28, 35, 66, and 67 stand rejected as allegedly obvious under 35 U.S.C. § 103(a) in view of the '252 patent, and claims 15, 16, 31, 54, and 55 stand rejected as allegedly obvious over the '252 patent in view of Kennedy, et al. (U.S. Pat. No. 5,079,262). Applicants also respectfully traverse these rejections and request their withdrawal for the following reasons. In particular, Applicants disagree with the Examiner's assertion that Walker meets the claim limitations of the presently claimed invention for the reasons stated above.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the cited reference(s) or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants' disclosure.

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As an initial matter, Applicants note that the § 103(a) rejections concern only dependent claims, implicitly admitting that the independent claims are non-obvious. Because the independent claims have thus been determined to be non-obvious, by definition those that depend therefrom (and thus include one or more additional elements) must, by definition, also be non-obvious. The 35 U.S.C. § 103(a) rejections should be withdrawn for this reason alone.

Turning to the merits of the § 103(a) rejections, it is clear that the '252 patent does not teach or suggest each element of the rejected claims. Specifically, the '252 patent does not address compositions that lack liposomes, nor does it suggest the use of such compositions. Indeed, the '252 patent teaches away from the use of compositions that do not employ liposomes to encapsulate the therapeutic agents, since liposomes are used in the '252 patent to localize delivery of therapeutic agents to a target site and thereby minimize exposure of normal, healthy cells to the therapeutic agents. Applicants respectfully submit that the 35 U.S.C. § 103(a) rejections premised solely on the '252 patent should be withdrawn for these reasons.

Applicants respectfully submit that the § 103(a) rejection based on the combination of the '252 and '262 patents should also be withdrawn. In the Office Action it is stated that the methods of the '252 and '262 patents are analogous. Applicants respectfully disagree. For example, the '252 patent utilizes liposomes and electropermeabilization to effect localized delivery of active therapeutic agents. In contrast, the compounds disclosed in the '262 patent are not encapsulated by liposomes. Moreover, the compounds of the '262 patent (e.g., 5-aminolevulinic acid, or "ALA") are precursors to the naturally occurring, short-lived photosensitive agent protoporphyrin IX, or "PpIX". These precursors are reportedly selectively taken up by tissues and intracellularly converted into PpIX. Subsequent photo-activation then occurs. Thus, in the '262 patent, localized delivery of PpIX is achieved by administering a precursor that can be selectively taken up by target cells (e.g., malignant or benign cells) and converted into PpIX, as opposed to systemically delivering liposomes containing an already active ingredient and electropermeabilizing the liposomes to effect drug release at the desired target site, as disclosed in the '252 patent. Accordingly, the '262 and '252 patents are not analogous. Additionally, neither of the cited patents provides a motivation for combining their

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respective disclosures. Finally, Applicants note that claims 16 and 55 relate to methods wherein light is applied by a near ultraviolet lamp, not a tungsten lamp, and that the '262 patent discloses that PpIX strongly absorbs red light (between 600-700 nm; see '262 patent, col. 4, lines 60-68) and the filtering of wavelengths below 600 nm ('262 patent, col. 5, lines 54-56). For these reasons, this 35 U.S.C. § 103(a) rejection should also be withdrawn.

CONCLUSION

Applicants respectfully submit that all claims are in condition for allowance, and they earnestly solicit a notice to such effect. Should any issues or questions remain, the Examiner is encouraged to telephone the undersigned at 858.350.9690 so that they may be promptly resolved without the need for an additional formal action and response thereto.

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